

SERIAL NUMBER	FILING DATE	INVENTOR(S)	DOCKET NO.
10/023,465	12/04/01	William L. Lundy	Perox-Chelant
EXAMINER	ART UNIT	SUBJECT	MAILED
Kreck, John J.	3673	Office Letter	11/18/03
TITLE OF INVENTION: In Situ Subsurface Decontamination Method			

TO: Commissioner of Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

IN THE CLAIMS

1-15 (Cancelled)

16. (New) A method of decontaminating soil and ground water containing organic contaminants and an iron compound, which comprises the steps of:

treating such soils and ground water with an effective amount an alkaline aqueous solution which has a pH of at least 7 and contains an alkaline buffering agent, a peroxide and a water-soluble aminopolycarboxylate- chelating agent for a time sufficient to have the water-soluble aminopolycarboxylate- chelating agent chelate the iron of the iron compound present in the soils and ground water;

reacting the chelated iron with the peroxide to catalytically convert the peroxide to an oxidizing agent; and then,
contacting the organic contaminants in the soil and ground water with the oxidizing agent to oxidize the organic contaminants to environmentally safe, non-toxic compounds.

17. (New) The method of claim 16 where the alkaline buffering agent is an alkaline phosphate and urea phosphate.

18 (New) The method of claim 16 where the pH of the alkaline aqueous solution is between 7.0 and 9.5

19.(New) The method of Claim 16, where the water-soluble aminopolycarboxylate-chelating agent is an alkylenepolyamine polyarboxylate chelating agent.

20. (New) A method of decontaminating soil and ground water containing organic contaminants and an iron compound, which comprises the steps of:

treating such soils and ground water with an effective amount an alkaline solution which has a pH between 7.0 and 9.5 and contains a phosphate and urea phosphate buffering agent, a peroxide and a water soluble aminocarboxylate- chelating agent for a time sufficient to have the water-soluble aminopolycarboxylate- chelating agent chelate the iron of the iron compound present in the soils and ground water;

reacting the chelated iron with the peroxide to catalytically convert the peroxide to an oxidizing agent; and then,
contacting the organic contaminants in the soil and ground water with the oxidizing agent to oxidize the organic contaminants to environmentally safe, non-toxic compounds.

21. The method of Claim 20. where the water-soluble aminopolycarboxylate-chelating agent is an alkylenepolyamine polyarboxylate chelating agent.